

In re: Kapik
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Filed: October 3, 2003
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In the Claims:

1. (Currently Amended) A method of preparing a barrier fabric, comprising:

providing a porous web of nonwoven material including at least one meltblown nonwoven layer, wherein the porous web has a lengthwise direction and a widthwise direction;

applying a barrier finish to fibers of the porous web such that the web retains porosity yet serves as a barrier to liquids, comprising subjecting fibers of the porous web to an aqueous bath of barrier material;

stretching the porous web in the widthwise direction between about one percent and about twenty percent (1%-20%) of an initial width without hindering barrier properties of the porous web; and

subjecting the porous web to conditions sufficient to cure the barrier finish.

2. (Original) The method of Claim 1, wherein stretching is preceded by heating the web to a predetermined temperature.

3. (Cancelled)

4. (Cancelled)

5. (Original) The method of Claim 1, wherein stretching is performed via a tenter frame.

6. (Original) The method of Claim 1, wherein stretching is performed by passing the web through a pair of interdigitating rolls.

7. (Original) The method of Claim 1, wherein stretching is performed by passing the web through a series of bow rolls.

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8. (Original) The method of Claim 1, wherein subjecting the web to conditions sufficient to cure the barrier material occurs substantially simultaneously with stretching.

9. (Currently Amended) A method of preparing a barrier fabric, comprising:

providing a fibrous laminate having a lengthwise direction and a widthwise direction, wherein the fibrous laminate comprises:

first and second fibrous layers having fibers with a diameter greater than ten microns (10 μ m); and

a third fibrous layer having fibers with a diameter less than ten microns (10 μ m) sandwiched between the first and second layers, wherein the third fibrous layer serves as a barrier to liquids;

wherein the first, second and third layers are bonded together at multiple spaced-apart locations; and

stretching the fibrous laminate in the widthwise direction between about one percent and about twenty percent (1%-20%) of an initial width without hindering barrier properties of the third fibrous layer.

10. (Original) The method of Claim 9, wherein the first and second fibrous layers are spunbond nonwoven layers and wherein the third layer is a microfiber meltblown nonwoven layer.

11. (Original) The method of Claim 9, wherein the first, second and third layers are bonded together between about two percent and about twenty five percent (2%-25%) of a surface area of the fibrous laminate.

12. (Previously Presented) The method of Claim 9, wherein the first, second and third layers are autogenously bonded together.

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13. (Original) The method of Claim 9, wherein the first, second and third layers are autogenously bonded together ultrasonically.

14. (Original) The method of Claim 9, wherein the first, second and third layers are bonded together in a continuous bond pattern.

15. (Original) The method of Claim 9, wherein the first, second and third layers are bonded together in multiple, spaced apart bond patterns.

16. (Original) The method of Claim 9, further comprising applying a finish to the fibrous laminate to impart liquid repellency to the fibrous laminate prior to stretching.

17. (Original) The method of Claim 16, wherein the finish comprises a mixture of n-hexanol and fluorochemical dispersion.

18. (Original) The method of Claim 9, further comprising applying a finish to the fibrous laminate to impart antistatic properties to the fibrous laminate prior to stretching.

19. (Original) The method of Claim 18, wherein the finish comprises an antistat.

20. (Original) The method of Claim 9, wherein stretching is preceded by heating the fibrous laminate to a predetermined temperature.

21. (Cancelled)

22. (Original) The method of Claim 9, wherein stretching is performed via a tenter frame.

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23. (Original) The method of Claim 9, wherein stretching is performed by passing the fibrous laminate through a pair of interdigitating rolls.

24. (Original) The method of Claim 8, wherein stretching is performed by passing the fibrous laminate through a series of bow rolls.

25. (Withdrawn) A barrier fabric, comprising:

a web of nonwoven material including at least one meltblown nonwoven layer, wherein the web has a lengthwise direction and a widthwise direction; and
a barrier finish applied to the web that serves as a barrier to liquids;
wherein the web is stretched in the widthwise direction between about one percent and about twenty percent (1%-20%) of an unstretched width without hindering barrier properties of the web.

26. (Withdrawn) A fibrous laminate, comprising:

first and second fibrous layers having fibers with a diameter greater than ten microns (10 μ m); and
a third fibrous layer having fibers with a diameter less than ten microns (10 μ m) sandwiched between the first and second layers, wherein the third fibrous layer serves as a barrier to liquids;

wherein the first, second and third layers are bonded together at multiple spaced-apart locations;

wherein the fibrous laminate is stretched in a widthwise direction between about one percent and about twenty percent (1%-20%) of an unstretched width without hindering barrier properties of the third fibrous layer.

27. (Withdrawn) The fibrous laminate of Claim 26, wherein the first and second fibrous layers are spunbond nonwoven layers and wherein the third layer is a microfiber meltblown nonwoven layer.

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28. (Withdrawn) The fibrous laminate of Claim 26, wherein the first, second and third layers are bonded together between about two percent and about twenty five percent (2%-25%) of a surface area of the fibrous laminate.

29. (Withdrawn) The fibrous laminate of Claim 26, wherein the first, second and third layers are autogenously bonded together

30. (Withdrawn) The fibrous laminate of Claim 26, wherein the first, second and third layers are bonded together in a continuous bond pattern.

31. (Withdrawn) The fibrous laminate of Claim 26, wherein the first, second and third layers are bonded together in multiple, spaced apart bond patterns.